

Attny. Docket No.: 2003-0395/N1085-90166

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## REMARKS

JAN 31 2007

1. Claims 35-42 are pending. Of these claims, claims 35-41 stand rejected and claim 42 stands withdrawn.

Reconsideration of this application is respectfully requested.

2. Claims 35-41 stand rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent 6,541,397 B1 to Bencher.

Claim 35 requires inter alia, "flowing oxygen, argon, and one of dimethylsilane, trimethylsilane, and tetramethylsilane, over the substrate at a flow rate ratio of about 1:1.5:6".

The examiner essentially argues that the claimed flow rate ratio of 1:1.5:6 is a species that can be calculated from the broad genus flow rate ranges provided by Bencher,

A preferred silicon, oxygen, and carbon layer is deposited in one embodiment by supplying trimethylsilane or 1,3,5,7-tetramethylcyclotetrasiloxane to a plasma processing chamber at a flow rate between about 10 and about 1000 standard cubic centimeters per minute (sccm) with an oxidizing gas supplied to the processing chamber at a flow rate between about 10 sccm and about 1000 sccm. An inert gas, such as helium, argon, or combinations thereof, is also supplied to the chamber at a flow rate between about 50 sccm and about 5000 sccm. The chamber pressure is maintained between about 100 milliTorr and about 15 Torr. The substrate surface temperature is maintained between about 100° C. and about 450° C. during the deposition process.

This rejection is respectfully traversed as a prior genus does not necessarily prevent patenting of a species. See *Eli Lilly & Co. v. Bd. of Regents of Univ. of Wa.*, 334 F.3d 1264, 1270 (Fed Cir. 2003). More specifically, a prior genus will only anticipate a claimed species when the species can be "at once envisage" from the genus. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App & Inter. 1990). A reference disclosing a genus which embraces a large number of species cannot be said to anticipate claims to an undisclosed species. See *In re Meyer*, 599 F.2d 1026, 202 USPQ 175 (CCPA 1979).

The claimed flow rate ratio of 1:1.5:6 is not specifically disclosed in Bencher, therefore, Bencher does not "clearly" anticipate any of claims 35-41. This fact is impliedly admitted in the

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Office Action, as the Examiner's position relies on having to "calculate" the claimed flow rate ratio from the flow rate ranges provided by Bencher.

Further, the claimed flow rate ratio of 1:1.5:6 cannot be "at once envisage" from the extremely broad flow rate ranges disclosed in Bencher, which embraces a huge number of species. The specific flow rates "calculated" by the Examiner from Bencher's flow rate ranges are not "at once envisage" from the broad flow rate ranges of Bencher. The only way to select these specific flow rates is to use the flow rate ratio recited in claim 35.

Moreover, Bencher's flow rate ranges of 10 sccm to 1000 sccm of an oxidizing gas, 50 sccm to 5000 sccm of an inert gas, and 10 sccm to 1000 sccm of trimethylsilane embraces thousands of flow rate ratio species. One of ordinary skill in the art would not be able to "at once envisage" the claimed flow rate ratio from the thousands of flow rate ratio species embraced by Bencher's flow rate ranges.

Thus, claim 35 is allowable over Bencher.

Claims 36-41 are allowable over Bencher for at least the same reasons as stated for claim 35.

Further, claim 41 additionally requires: "the deposition rate of said carbon doped SiO<sub>2</sub> film is from about 5000 to 8000 Angstroms per minute". The examiner asserts that column 8, lines 10-20 of Bencher describes this feature. Bencher merely states in column 8, lines 10-20:

The amorphous carbon layer is then deposited from the processing gas using the following deposition process parameters. The substrate is maintained at a substrate temperature between about 100° C. and about 500° C., a chamber pressure is maintained between about 1 Torr and about 20 Torr, the hydrocarbon gas (C<sub>x</sub> H<sub>y</sub>) has a flow rate between about 50 sccm and about 500 sccm for a 200 mm substrate, a plasma is generated by applying a RF power of between about 3 W/cm<sup>2</sup> and about 20 W/cm<sup>2</sup>, or between about 1000 watts (w) and about 6000 W for a 200 mm substrate, with a gas distributor being between about 300 mils and about 600 mils from the substrate surface. **The above process parameters provide a typical deposition rate for the amorphous carbon layer in the range of about 100 Å/min to about 1000 Å/min. . . .** (Emphasis added.)

Hence, the claimed deposition rate range is clearly outside the deposition rate range described by Bencher. Accordingly, claim 41 contains additional subject matter that is allowable over Bencher.

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In view of the foregoing, withdrawal of this rejection is respectfully requested.

3. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 35-41 are in condition for allowance. Should there be any questions or matters whose resolution may be advanced by a telephone call, the examiner is cordially invited to contact applicants' undersigned attorney at his number listed below.

4. No fees are required as a result of this paper. However, if a fee is required, the Commissioner is hereby authorized to charge any additional fee required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this paper, or credit any overpayment to Deposit Account No. 04-1679.

Respectfully submitted,



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